valves in *Dichelaspis* and *Conchoderma*. In all this we perceive the manifestation of, at least, a unity of design, if it be not simply an evidence of that latitude for diversity, or the susceptibility of divergent modification, impressed upon original types by the Great Author of Nature. Yet, though we may trace back divergent subtypes to one primary source, it would be unphilosophical to expect the mutual transmutation of any two such resultants into each other as contingent upon what the Darwinian theory is too often incorrectly assumed to involve. For, even if a tendency to revert to the original type, such as we see in unstable variety, were to manifest itself in any case, the effect of such a tendency would be the production of something very different from the collateral forms, instead of running into them, which a superficial thinker might suppose to be most natural; for the collateral forms themselves must have originated in special and protracted change developing great, though gradual, modification.

EXPLANATION OF PLATES XXXIII. & XXXIV.

Plate XXXIII.

Fig. 1. *Parodolepas*, attached in a group to one of the gills of *Neptunus pelagicus*. Natural size.

2. *a*. Group of three of the same little Cirripeds attached to one of the gill-flappers. Considerably enlarged.
   b. Lateral view of the single ovigerous lamella.
   c. Front view of the same, showing the emargination of its anterior border; also considerably enlarged.

3. Magnified view of *Parodolepas neptuni*, showing the course of the lines of growth, the shelly thickenings, and the minutely dotted surface of the valves.
   a. Pedicle.
   b. Scutum.
   c. Tergum.
   d. Carina.

Plate XXXIV.

Highly magnified view of the oral apparatus of *Parodolepas neptuni*.
   a. Shelly support of the scutum (occludent segment).
   b. Occludent margin of the capitulum, showing lines or increments of growth decreasing both in thickness and length from before backwards.
   c. Labrum with minute dental points on its angular edge.
   d. Palp.
   e. Mandibles.
   f. Maxilla.
   g. External maxillæ.
   h. Anterior pair of cirri.

6. Descriptions of new Land and Freshwater Molluscan Species collected by Dr. John Anderson in Upper Burma and Yunan. By W. T. Blanford, F.G.S., C.M.Z.S., &c.

The following are the principal novelties in the large and very interesting collection made by Dr. John Anderson when accompany-

ing the recent expedition to Yunan. They will be figured, and the previously described species enumerated, in Dr. Anderson's full account of his journey, together with his other numerous novelties.

1. PALUDINA BENGALENSIS, Lam., var. DIGONA (vel P. DIGONA).

Testa P. bengalensi *persimilis, sed decussatim striatula, anfractibus superioribus juxta suturam angulatis; ultimo biangulato, et supra et infra peripheriam, angulis singulis fasciis fuscis spiralibus congruentibus, zona tertia intermedia, aliis basalibus, lineis angustioribus spiralibus interdum interjectis.*

Long. 23½–32 mm., diam. 17½–23; apert. 13–17½ longa, 10½–14½ lata.

Hab. in valle fluminis Iravadi circa Ava, Bhamo, &c.

Merely a variety of *P. bengalensis*, and passing insensibly into the type in Assam, and into the var. *balteata*, Bs. (*P. doliaris*? Gould), in Sylhet. If, however, *P. microgramma*, v. Martens, *P. sumatrensis*, Dkr., and similar allied varieties be distinguished by a particular name, this form should also be so, and may in that case be called *P. digona*. It is perfectly intermediate between *P. bengalensis*, Lam., and *P. oxytropis*, Bs.

2. PALUDINA DISSIMILIS, Müll., var. DECUSSATULA (vel P. DECUSSATULA).

Testa imperforata, conoideo-ovata, tenuiuscula, olivacea, fascia pallida subperipheriali in anfractu ultimo plerumque signata, subglabra, striis incrementi et lineis subconfertis flexuosis spiralibus decussata. Apex acutus; sutura mediocriter impressa. Anfr. 6–7, *convexi, ultimus tumidior. Apertura subovata, intus lactea. Peristoma tenue, nigrum. Operculum corneum, crassum.*

Long. 25, diam. 17½ mill.; apertura 13 longa, 10½ lata.

Hab. Ava.

Nearer to the variety *præmorsa* of Benson than to any other Indian form. It is distinguished by its fine decussating striation.

The *Paludinæ* of British India, like most of the freshwater shells, are in endless confusion—a state which has certainly not been removed by the work of Von Franenfeld and Reeve. I fully concur with the remarks of Von Martens (Malakozoologische Blätter, xiii. p. 98) as to the forms figured in Reeve, which are undistinguishable as species from *P. dissimilis* of Müller; indeed I am inclined to go much further, and to class such forms as *P. crassa*, Hutton, and *P. præmorsa*, Bens., as varieties also, though they are sufficiently distinct to deserve varietal names. The form now described is equally deserving of distinction.

3. MELANIA IRAVADICA, sp. nov.

Testa elongato-turrita, tenuis, fusco-olivacea, decollata. Anfr. circa 7, *primi erosi,* 3–4 *superstites convexi, superi seriebus duabus spiralibus nodorum confertorum circumdati, ultimus spiraliter liratus, nodis fere vel omnino obsoletis. Apertura rhomboideo-*

ovata, antice subeffusa; peristoma tenue, margine externo subrecto, basali antice porrecto, columellari sinuato. Operc.?

Long. exempli majoris decollati 25 mm., diam. 15; apert. oblique 13 longa, 8 lata. Exempli mediocris (etiam decollati), long. 13, anfr. ultimi 11, diam. maj. 14, min. $12\frac{1}{2}$; apertura oblique cum peristomate 13 longa, $8\frac{1}{2}$ lata.

Hab. in flumine Iravadi superiore ad Malé et Bhamo.

Distinguished from the numerous varieties of *M. variabilis*, Bens., by the external margin of the peristome not being sharply curved outwards close to the base, but nearly straight, with a very gentle concave curve throughout. Unfortunately, the opercula have disappeared from all the specimens, as well as from some collected by myself in 1861.

4. Bithynia iravadica, sp. nov.

Testa subrimata, ovato-conica, solidula, sub lente minutissime (fere obsolete) decussato-striata, pallide olivacea vel fulva. Spira elevato-conica, apice obtusiusculo sæpe eroso, sutura parum impressa. Anfr. 6, convexiusculi, ultimus ad peripheriam obtuse angulatus. Apertura subverticalis, ovata, postice angulata, antice subangulata et subeffusa; peristoma tenue, rectum, marginibus callo junctis, columellari verticali cum basali angulum fere rectum faciente. Operc. normale.

Long. 11, diam. $6\frac{1}{2}$ mm.; apert. 6 mm. longa, 4 lata.

Hab. in paludibus et rivulis prope Mandélé urbem principalem hodiernam regni Avæ.

Intermediate between *B. ceranospatana*, v. Frauenfeld (*B. cerameopoma*, Bs. MS.*), of India, and *B. goniomphalus*, Mor., of Siam.

5. Fairbankia? (an Bithynia?) turrita, sp. nov.

Testa subperforata, turrita, solidula, fulva, glabra, nitidula. Spira elongato-conica, sutura impressa. Anfr. 7, convexi, ultimus antice subascendens, subtus rotundatus. Apertura ovata, postice vix angulata, varice externo mediocri instructa; peristoma undique expansiusculum, marginibus callo junctis, externo leviter arcuato, columellari obliquo, antice cum basali subangulatim juncto. Operc.?

Long. $6\frac{1}{4}$, diam. 3 mm.; aperturæ long. $2\frac{1}{2}$, lat. $1\frac{3}{4}$ mm.

Hab. ad Kyoukpong (in flumine Iravadi?).

This looks like an estuary shell. In the absence of the operculum its position is doubtful; but if not allied to *Fairbankia bombayana*, W. Blauf., it may perhaps be a *Bithynia*, near *B. nassa*, Theobald.

6. Cyclophorus sublævigatus, sp. nov.

Testa aperte umbilicata, depresso-turbinata, solida, sublævigata, oblique striatula, in anfractibus superioribus et nonnunquam sed rare in ultimo lineis impressis confertis spiralibus decussata,

* I believe this common Indian shell is undescribed by Benson; at least I can find no description of it. It has been referred to by name in Benson's papers; and I regret Von Frauenfeld's selecting such a name as *ceranospatana* by which to describe it.

castanea, supra peripheriam et circa umbilicum spiraliter albido fasciata, periomphalo lato albo. Spira depresso-conica, lateribus concavis, apice papillari, magis exserto, sutura profunda. Anfr. 5, *convexi, ultimus magnus, ad peripheriam angulatus, angulo antice evanescente, subtus convexus, juxta aperturam leniter descendens. Apertura fere rotunda, obliqua, lutescenti-albida, aliquantulum latior quam alta. Peristoma rectum, incrassato-expansum, subcontinuum. Umbilicus pervius. Operculum normale.*

Diam. maj. 46, min. 38, axis 25 mm.; apert. cum perist. 23 mm. lata, $21\frac{1}{2}$ alta.

Hab. haud procul a Bhamo, ad ripas fluminis Iravadi.

Somewhat allied to *C. pearsoni*, Benson, and *C. excellens*, Pfr., but more depressed than either. It is distinguished from *C. theobaldianus*, Bens., by its much smaller mouth and smoother surface.

7. Spiraculum andersoni, sp. nov.

Testa late umbilicata, depressa, discoidea, oblique striata, lineis elevatis minutis spiralibus superne et præsertim juxta peripheriam, sed non circa umbilicum, confertissime decussata, albida, strigis castaneis fulguratis radiantibus picta. Spira plana, apice vel plano vel vix exsertiusculo, sutura profunda. Anfr. $4\frac{1}{2}$, *teretes, ultimus versus aperturam longe descendens,* 5–6 *mill. pone peristoma tubulo suturali reverso parvo, arcuatim recurvato vel subrecto et libero,* 2–3 *mm. longo munitus. Apertura diagonalis, rotunda; peristoma continuum, duplex, internum expansiusculum undique appressum, postice juxta anfractum penultimum profunde angulatim sinuatum, externum expansum, supra sinum dilatatum, juxta anfractum penultimum instar cuculli plani porrectum. Operc. persimile ei* Sp. hispidi, *corneum, intus concavum, extus convexum, marginibus anfractuum, præsertim externorum, lamellatim liberis, apice planiusculo.*

Diam. maj. $15\frac{1}{2}$–17, min. 12–$13\frac{1}{2}$, axis 5–6, apert. diam. intus 5 mm.

Hab. ad Bhamo cum præcedente.

Distinguished from *Sp. avanum*, W. Blanf., by its more oblique mouth, differently shaped and more expanded peristome, by the horizontal cowl-shaped projection running forwards along the last whorl instead of being vertical, the greater distance of the sutural tube from the mouth, and the much more convex operculum.

8. Helix (Trachia) catostoma, sp. nov.

Testa late umbilicata, depressa, subdiscoidea, cornea, tenuis, striata. Spira depresso-convexa, sutura leviter impressa. Anfr. 7, *convexi, arcte convoluti, ultimus rotundatus, circa umbilicum subcompressus, antice abrupte deflexus, valde descendens, pone aperturam subconstrictus. Apertura fere horizontalis, truncato-ovata; peristoma album, reflexum, antice et postice prope anfractum penultimum arcuatum, marginibus subdistanter convergentibus, callo tenui junctis; umbilicus latissimus, pervius.*

Maj. diam. 16, min. $14\frac{1}{2}$, alt. $6\frac{1}{2}$ mm.

Hab. Ponsee in Yunan.

A peculiar form, resembling *H. oldhami*, Bens., but with the mouth somewhat as in *H. nilagarica*, Pfr.

9. Helix (Plectopylis) andersoni, sp. nov.

Testa dextrorsa, latissime umbilicata, discoidea, solidula, albida, epidermide crassula fusca, interdum ad peripheriam laciniatim fimbriata, induta, sub epidermide decussato-striata, lineis spiralibus supra distinctis, infra subobsoletis. Spira plana, apice vix prominente, sutura subimpressa. Anfr. 7½–8, *angusti, arcte convoluti, supra planulati, infra in umbilico convexiusculi, ultimus superne ad peripheriam angulatus, subtus tumidus et circa umbilicum pervium, omnes anfractus monstrantem, obtuse compressus, pone aperturam leviter descendens, juxta peristoma constrictus. Apertura perobliqua, rotundato-lunaris; peristoma album, undique expansum, superne ad extremam peripheriam leviter angulatim porrectum, marginibus lamella curvata, ad ambas extremitates incisa junctis, lamina intranti nulla. Janua interna remota, ad* ⅓ *anfractuum ab apertura sita, e plica unica verticali parietali,* 4 *palatalibus horizontalibus, harum tribus inferioribus versus extremitates altioribus, medio humilibus, postice subbifidis, una basali etiam horizontali simplici constans.*

Diam. maj. 26, min. 23, alt. 8½ mill.

Hab. Bhamo in regno Avæ et Hoetone in Yunan.

Distinguished from the numerous allied Burmese forms by the absence of a reentering lamina running from the aperture, by the very simple internal plication, &c. It approaches *H. laomontana*, Pfr.

10. Helix (Sivella) percompressa, sp. nov.

Testa aperte et pervie umbilicata, perdepressa, lenticularis, tenuis, cornea, acutissime carinata, nitida, striis incrementi oblique curvatis notata. Spira fere plana, apice vix exserto, sutura impressa marginata. Anfr. 5, *convexi, ultimus carina mediana acuta utrinque compressa instructus, circa umbilicum tumidior, non descendens. Apertura parum obliqua, securiformis; peristoma tenue, rectum.*

Diam. maj. 12, min. 10½, axis 3 mm.

Hab. Bhamo in regno Avæ.

Near *H. sanis*, Bens., and *H. castra*, Bs., but more depressed than either.

11. Nanina (Rotula) arata, sp. nov.

Testa imperforata, lenticularis, tenuis, cornea, supra oblique plicato-striata, infra lævior nitidula, radiatim striatula. Spira depresso-conoidea, apice acutiusculo, sutura parum impressa, submarginata. Anfr. 7, *lente accrescentes, convexiusculi, ultimus acute carinatus, subtus convexus, non descendens. Apertura angulato-lunaris, obliqua; peristoma rectum, obtusum, marginibus distantibus, basali subincrassato, columellari declivi vix reflexiusculo.*

Diam. maj. 23½, min. 21½, axis 11 mm.; apertura 12½ mm. lata, 8 alta.

Hab. haud procul a Bhamo in regno Avæ.

Var. *Minor, anfractibus arctius convolutis.*

Diam. maj. $17\frac{1}{2}$, min. 15, axis $7\frac{1}{2}$ mm.

Hab. ad Ponsee in Yunan.

This shell is an ally of *N. climacterica*, Bs., but distinguished by a higher spire and sharper keel.

12. Achatina (Glessula) obtusa, sp. nov.

Testa elongato-turrita, albido-cornea, cerea, solidiuscula, confertim flexuose plicato-striata, infra suturam plicata. Spira elongata, ad apicem subcylindracea, apice perobtuso papillari, sutura vix impressa subcorrugata. Anfr. 12–14, *fere planulati, ultimus ad peripheriam subangulatus. Apertura obliqua, subovata; peristoma simplex, rectum.*

Long. 48–52, diam. 10–11, ap. long. 10–11, lat. 5–$5\frac{1}{2}$ mill.; apex 3 mill. latus.

Hab. ad Bhamo in regno Avæ.

Very close to *A. cassiaca*, Bens., but distinguished by finer sculpture, narrower and less numerous whorls, and much more obtuse apex. The two form a well-marked section of the genus.

13. Achatina (Glessula) subfusiformis, sp. nov.

Testa turrita, subfusiformis, tenuiuscula, pallide olivaceo-cornea, nitida, striatula, ad suturam subplicata. Spira elongato-pyramidalis, apice brevissime conico mucronato, sutura impressa submarginata. Anfr. 8, *convexi, ultimus subelongatus, antice attenuatus. Apertura subovata, columella parum arcuata, antice oblique truncata; peristoma obtusum, leviter undulatum.*

Long $17\frac{2}{3}$, diam. $5\frac{2}{3}$ mill.; apert. 6 longa, 3 lata.

Hab. Ponsee in Yunan.

This form may be recognized by its long lower whorl subattenuate below.

14. Succinea acuminata, sp. nov.

Testa conico-ovata, tenuissima, striata, pellucida, luteo-cornea, spira brevi acuminata subconica, lateribus subrectis. Anfr. $2\frac{1}{2}$, *penultimus parum convexus, ultimus* $\frac{2}{3}$ *longitudinis superans (in testa juniore* $\frac{3}{4}$ *subæquans), supra planulatus, infra tumidior. Apertura obliqua, ovata, subtus parum latior, basi recedens; peristoma acutum, margine externo (dextro) recto cum anfractu penultimo angulum fere rectum faciente, columella subrecta, anguste marginata.*

Long. $18\frac{1}{2}$, diam. maj. $8\frac{1}{2}$, min. vix 6, ap. long. 14, lat. infra medium $7\frac{1}{2}$ mill. Exempli minoris long. 13, diam. $6\frac{1}{2}$, ap. long. 10, diam. $5\frac{1}{2}$ mill.

Hab. ad Momein in Yunan.

A peculiarly acuminate form, perhaps allied to *S. indica*, Pfr. A scarcely distinguishable race occurs in Kashmir, whence Dr. Stoliczka has brought specimens.

15. Unio burmanus, sp. nov.

Testa subovata, solida, subcompressa, valde inæquilateralis, picea vel

fusco-olivacea, concentrice plicato-striata, disco medio et postico rugis obliquis irregulariter angulatis, interdum granosis, hic illic præsertim versus marginem ventralem obsoletis corrugato; umbonibus non prominentibus, subplanulatis, angulatim corrugatis, haud procul ab extremitate anteriore positis; lunella parva, concava; latere antico brevissimo subacuminato-rotundato; area convexa; margine dorsali postice regulariter convexo-curvato, terminaliter rotundato, ventrali convexo; dentibus cardinalibus crassis, radiatim corrugatis, in valva dextra binis, anteriore minimo, in sinistra ternis vel subternis; lateralibus elongatis subcurvatis, in valva dextra subduplicibus, in sinistra duplicibus; margarita colore salmonis tincta. Testa junior rotundato-ovalis, omnino præter ad extremitatem anticam subradiatim granoso-plicifera.

	1.	2.	3 (Testa junior).
Long.	52	45	34
Lat.	35	32	$26\frac{1}{2}$
Crass.	22	20	17
Ligamenti long.	23	$20\frac{1}{2}$	16

Hab. in flumine Iravadi ad Bhamo in regno Avæ.

I know of no *Unio* with which I can compare this. *U. pellis lacerti*, Mor., from Siam, is a little like it, but is much narrower and less inequivalve.

Several other species of *Unio* occurring with *U. burmanus* appear to me to be rather varieties of named species than forms deserving a distinct name. In one or two cases I feel doubtful, however. All would unquestionably be described as new by many naturalists. It is worthy of note that some of them are more closely allied to forms occurring in the Brahmapooter river, in Assam, than to those inhabiting the lower Irawady valley, in Pegu. The land shells of Bhamo and its neighbourhood are mostly either identical with forms occurring in Cachar and Khasia, or closely allied to them; and it is a remarkable and interesting fact connected with freshwater shells to find that they coincide in their distribution with the land animals, and do not follow the lines of the rivers in which they live, thus adding another proof of the existence of a means of migration amongst them independent of the course of rivers.

7. Notes on the Myology of *Menobranchus lateralis*. By St. George Mivart, F.R.S., Lecturer on Comparative Anatomy at St. Mary's Hospital.

The specimen which has served me for examination is one of those mentioned in my paper on *Menopoma* as having been confided to me from the stores of the Royal College of Surgeons.

This well-known species with permanent external gills has a more slender form than *Menopoma*; it has also a narrower head and